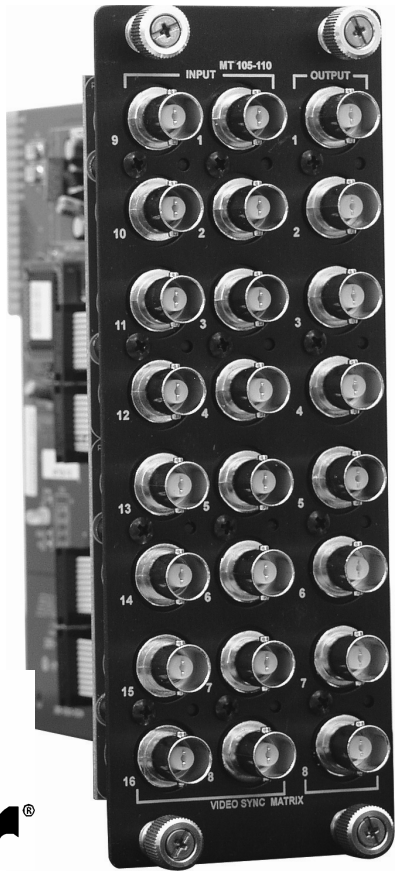

MT105-110 is pictured above.

MANUAL PART NUMBER: 400-0226-004

MT105-110/111

16-IN, 8-OUT & 8-IN, 8-OUT SYNC MATRIX SWITCHER CARDS USER'S GUIDE

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PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **MT105-110/111** and keep it handy for future reference. These safety instructions are to ensure the long life of your **MT105-110/111** and to prevent fire and shock hazards. Please read them carefully and heed all warnings.

1.1 GENERAL

- Qualified ALTINEX service personnel or its authorized representatives must perform all service.

1.2 INSTALLATION

- Handle the **MT105-110/111** carefully. Dropping or jarring can damage the card.
- The **MT105-110/111** contains components that are sensitive to electrostatic discharge (ESD). Always use ESD safety precautions when touching the card.
- To prevent fire or shock, do not expose this unit to water or moisture. Do not place the **MT105-110/111** in direct sunlight, near heaters, or heat-radiating appliances, or near any liquid. Exposure to direct sunlight, smoke, or steam can harm internal components.
- Do not pull the cables that are attached to the **MT105-110/111**.

1.3 CLEANING

- Clean only the connector area with a dry cloth. Never use strong detergents or solvents such as alcohol or thinner. Do not use a wet cloth or water to clean the card. Do not clean or touch any component or PCB.

1.5 FCC NOTICE

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with instructions found herein, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
- Any changes or modifications to the unit not expressly approved by ALTINEX, Inc. could void the user's authority to operate the equipment.

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ABOUT YOUR MT105-110/111 2

MT105-110/111

16-In, 8-Out and 8-In, 8-Out
Sync Matrix Switcher Cards

The **MT105-110** and **MT105-111** are Sync Matrix Switcher Cards that allow the routing of computer and broadcast video in audiovisual presentation systems. The **MT105-110** has 16 inputs and 8 outputs while the **MT105-111** has 8 inputs and 8 outputs.

The **MT105-110/111** cards enable video sync sources to be connected and switched to eight different display or recording devices. Inputs are selected via easy-to-use ASCII commands from a control system or computer connected to the RS-232 port of a MultiTasker enclosure.

Multiple **MT105-110/111** cards can be installed in the enclosure to provide additional functionality. For example, two cards can be used to handle the two sync components of an RGBHV signal, H-Sync and V-Sync. This configuration is easily made by using ALTINEX MS8100 Series cables to adapt 5 BNC connectors to a VGA-type, 15-pin HD connector. Also available are ALTINEX CB4400 Series cables for 5 BNC-to-5 BNC configurations.

TECHNICAL SPECIFICATIONS 3

Specifications are subject to change.
See www.altinex.com for up-to-date information.

FEATURES/ DESCRIPTION	MT105-110/111
GENERAL	
Inputs	16/8
Input Connectors	MT105-110: BNC female (16) MT105-111: BNC female (8)
Outputs	8
Output Connectors	BNC female (8)
Compatibility	
Using 1 Card	Composite Sync
Using 2 Cards	H+V Sync

Table 1. **MT105-110/111** General

MECHANICAL	MT105-110/111
Enclosure Slots Required	MT105-110 = 3 MT105-111 = 2
Weight	1.0 lb (0.45 kg)
Connector Panel	Black
T° Operating	10°C-50°C
T° Maximum	75°C
Humidity	90% non-condensing
MTBF (calc.)	40,000 hrs

Table 2. **MT105-110/111** Mechanical

ELECTRICAL		MT105-110/111
Input Signals		
Impedance		1 kΩ
Analog/TTL		1.5 – 5 Vp-p max.
Output Signals		
Impedance		22Ω
Power (from enclosure)		
+6V	MT105-110	0.500 A (3.0 W)
-6V	MT105-110	0.400 A (2.4 W)
Total Power	MT105-110	5.4 W max.
+6V	MT105-111	0.250 A (1.5 W)
-6V	MT105-111	0.200 A (1.2 W)
Total Power	MT105-111	2.7 W max.

Table 3. **MT105-110/111** Electrical

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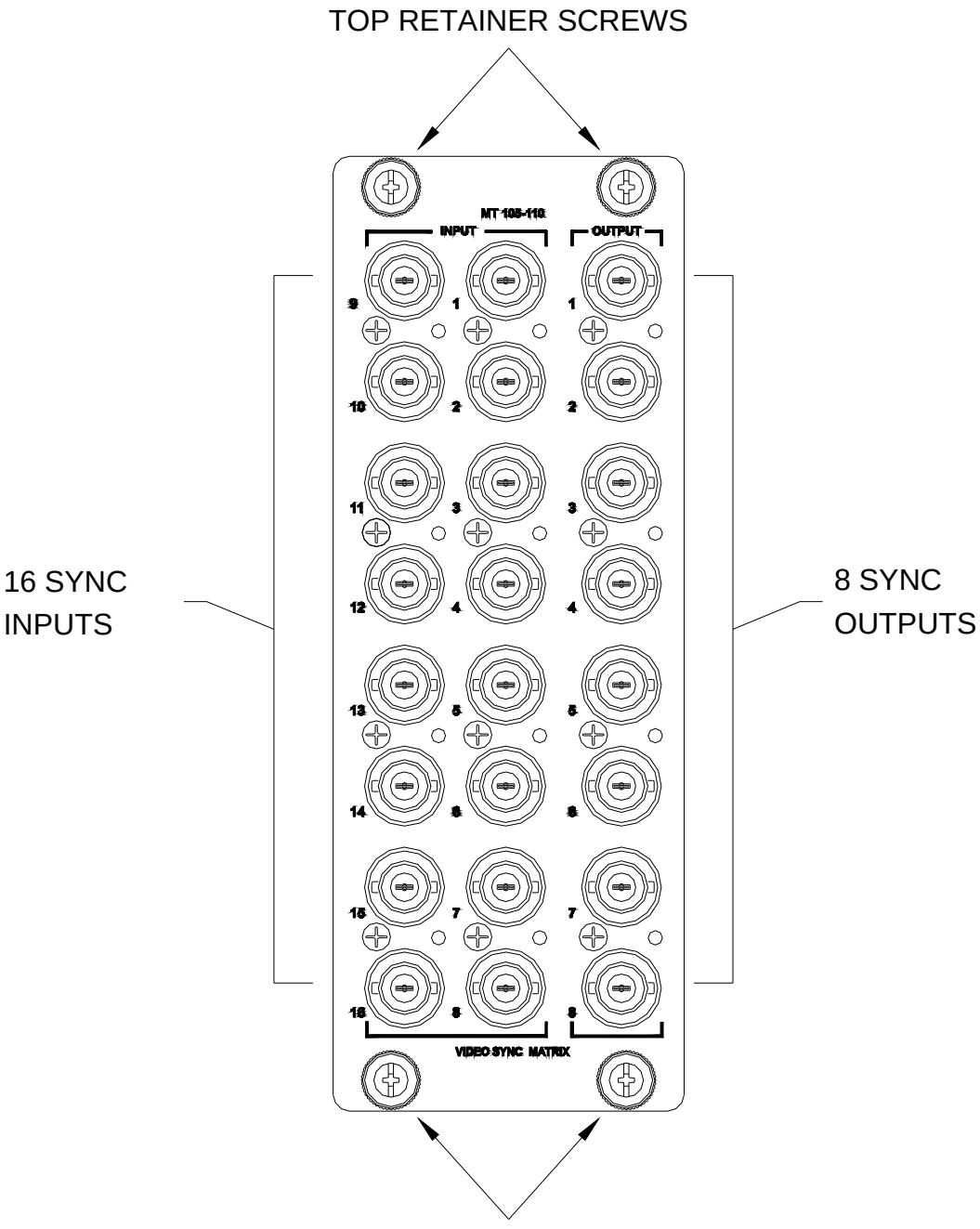
PRODUCT DESCRIPTION 4

MT105-110



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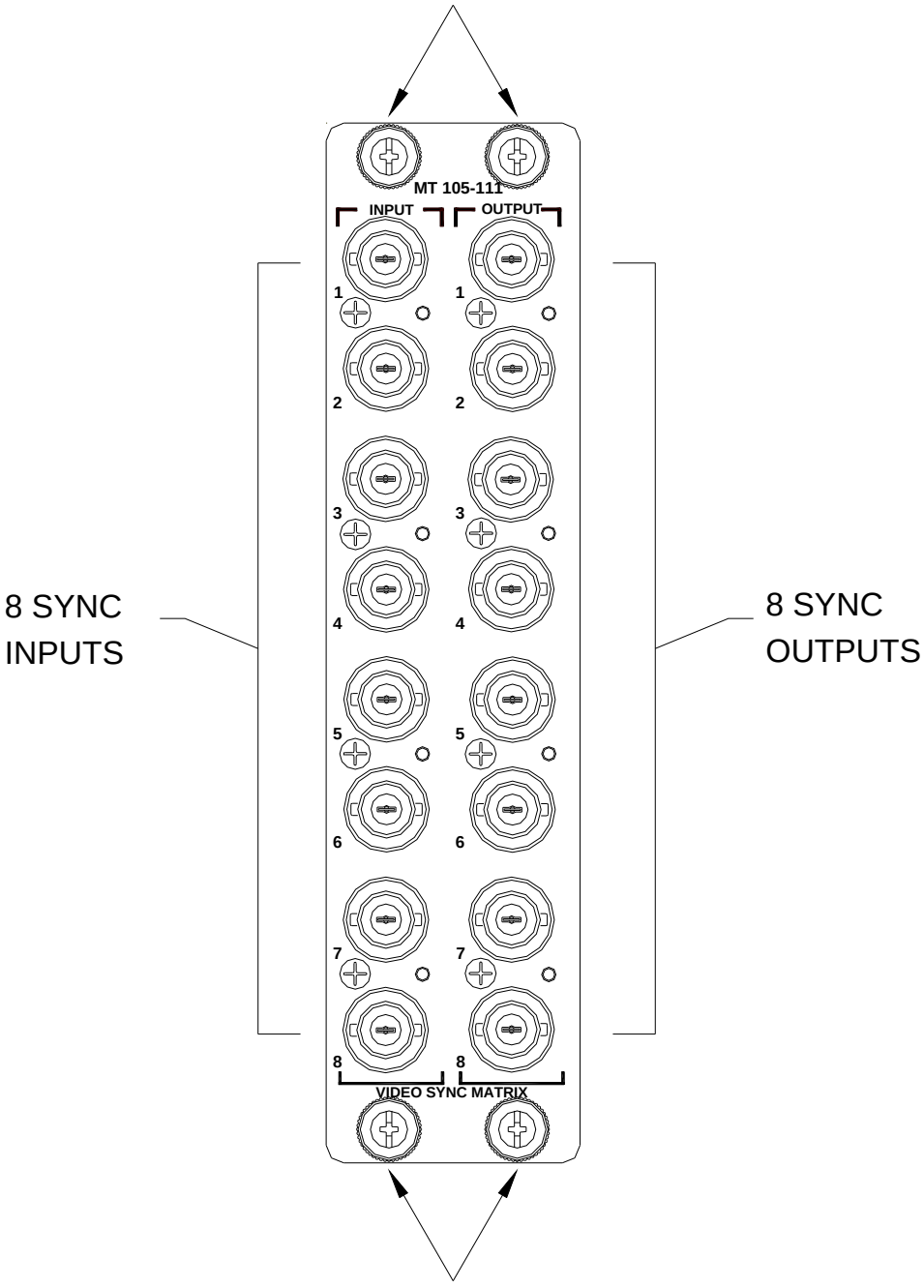
MT105-111

TOP RETAINER SCREWS



BOTTOM RETAINER SCREWS

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APPLICATION DIAGRAMS 5

DIAGRAM 1: TYPICAL SETUP

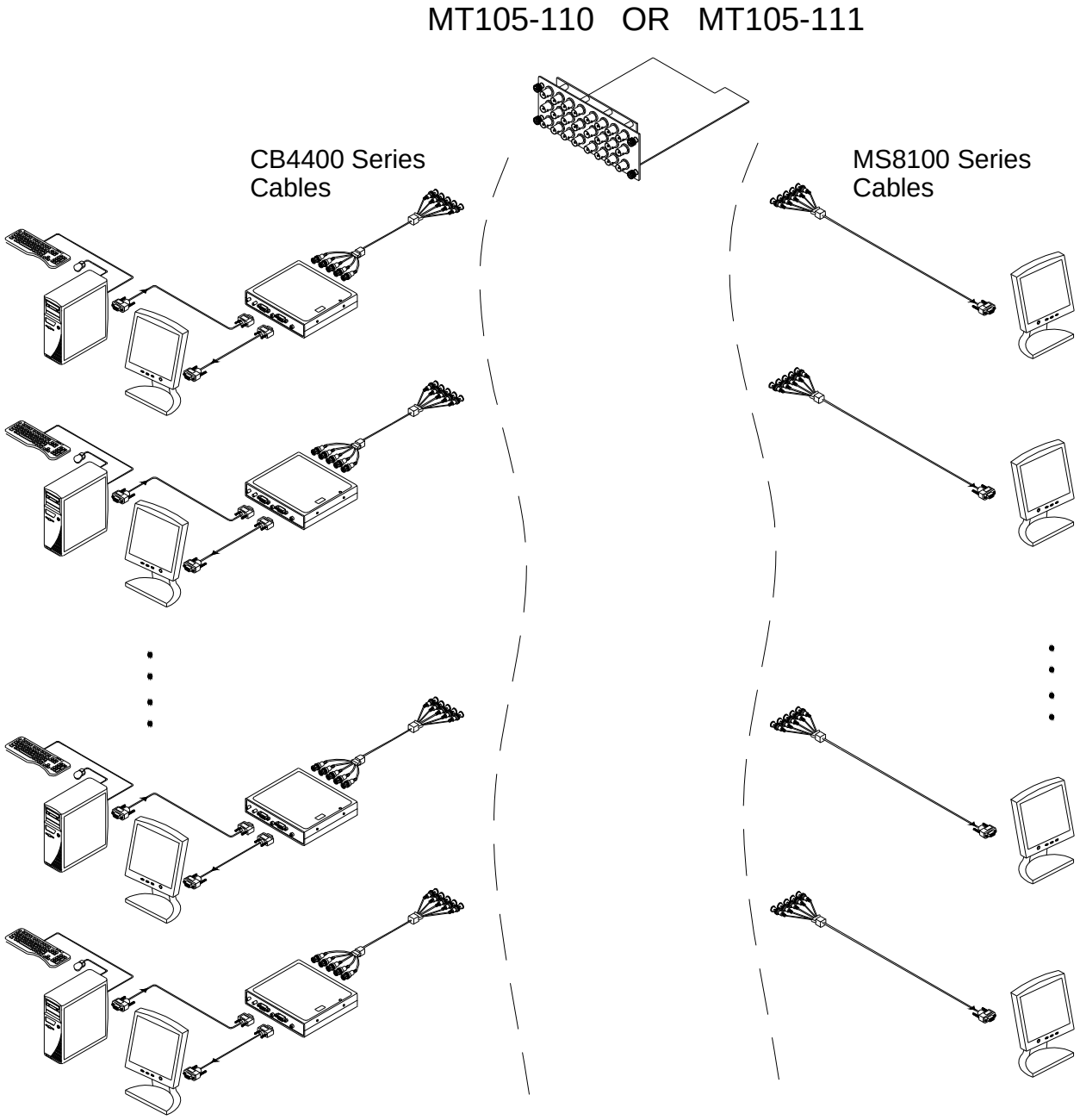

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DIAGRAM 2: INTERNAL VIEW MT105-110

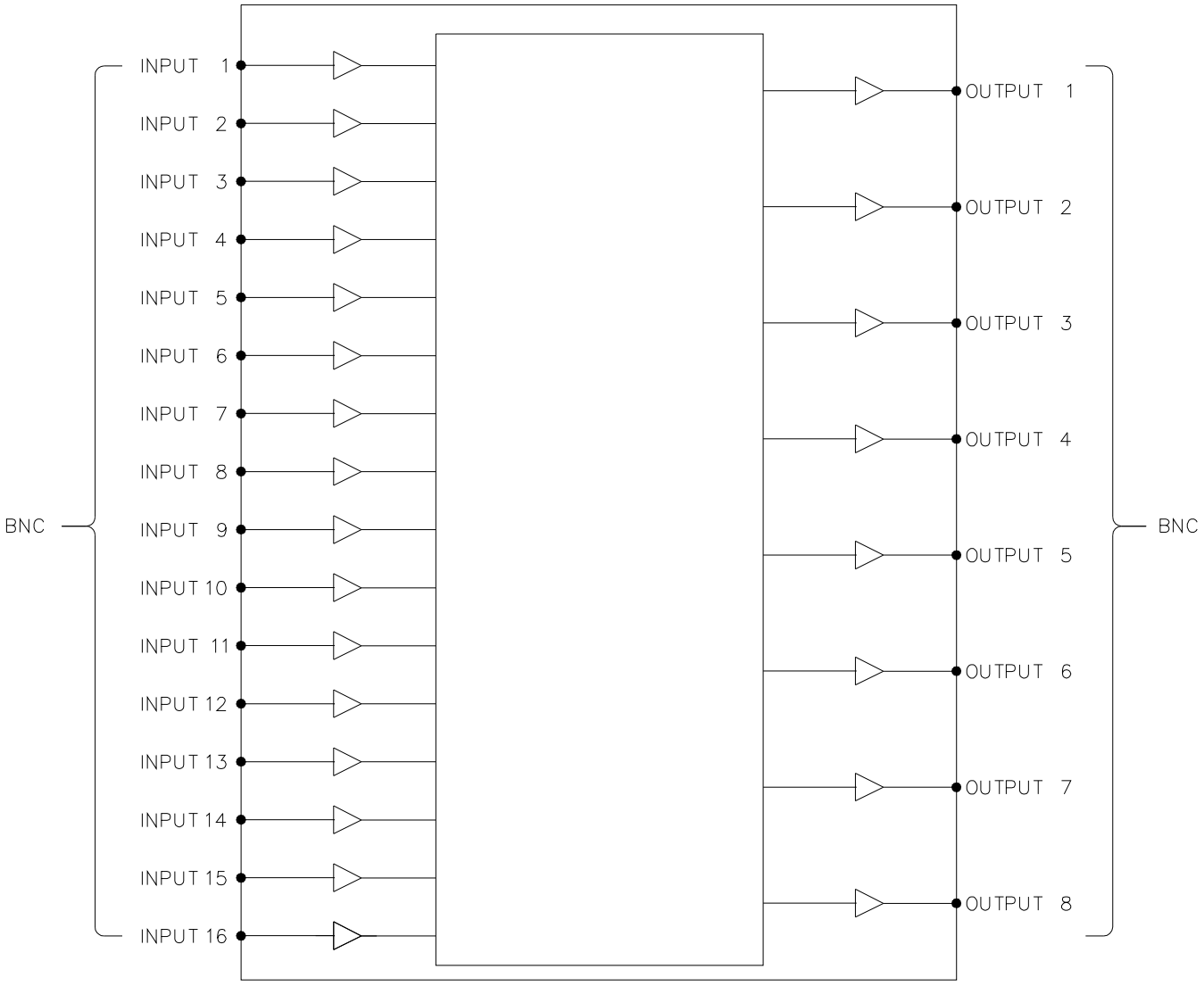

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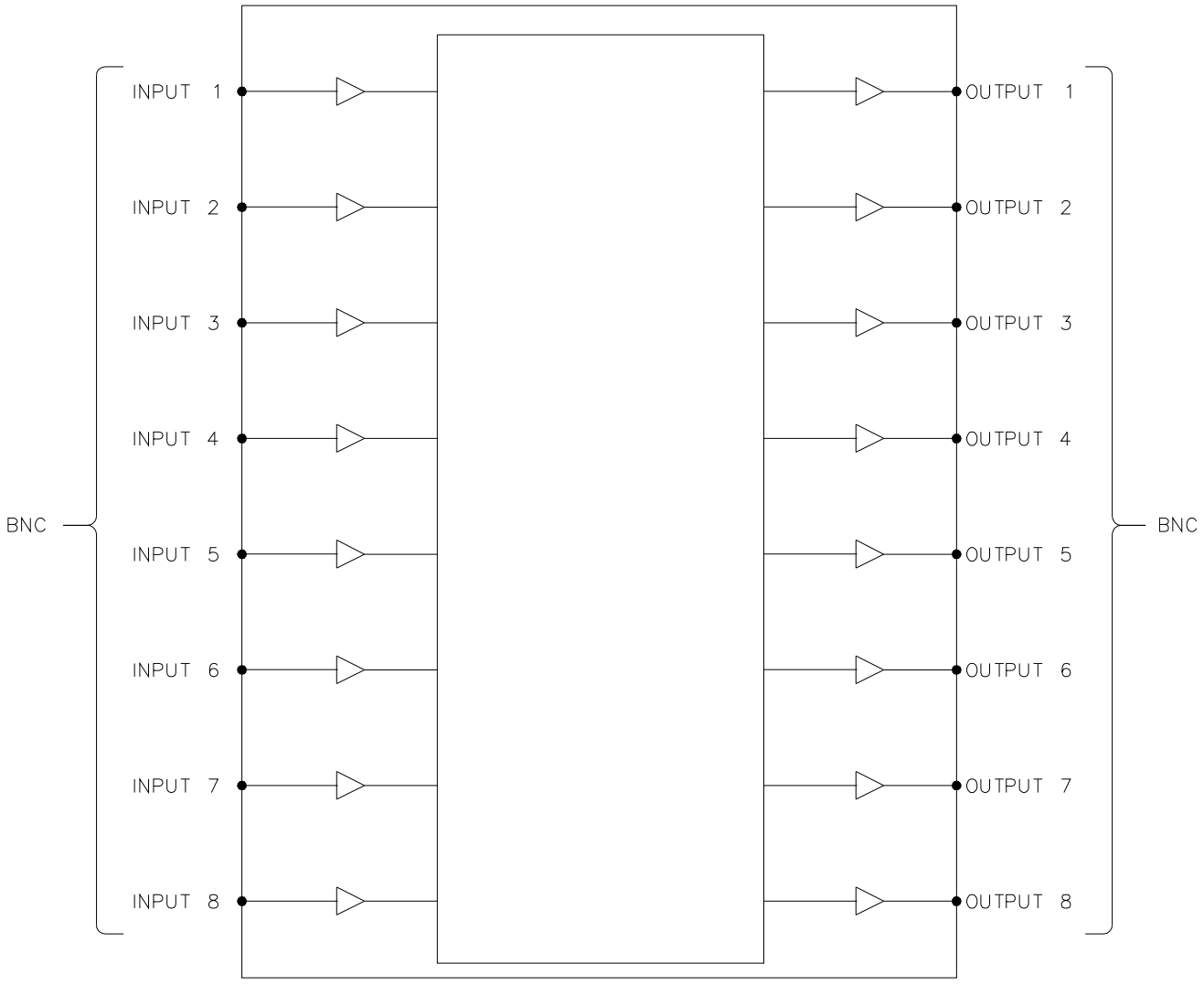
DIAGRAM 3: INTERNAL VIEW MT105-111



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INSTALLING YOUR MT105-110/111 6

Step 1. Turn off power to the MultiTasker system and disconnect from AC power.

Step 2. Remove the slot covers (MT200-101) from 2 or 3 of the unused slots depending on which model number is being installed. Identify the slot number and note that it is for RS-232 control.

Step 3. Slide the **MT105-110/111** into the MultiTasker enclosure in order to connect to the bus. Make sure that the card fits into place and then secure the card by tightening the retainer screws located on the top and bottom of the card.

Step 4. Restore power to the MultiTasker system.

Step 5. Connect coaxial cables from the video sync sources to the input connectors of the **MT105-110/111**.

Step 6. Connect the output connectors of the **MT105-110/111** to the display devices through coaxial cables.

Step 7. The **MT105-110/111** is now ready for operation.

OPERATION 7

7.1 RS-232 CONTROL

The **MT105-110/111** has many advanced remote-control capabilities accessible through standard RS-232 communication. Control may be accomplished through a computer, control system, or any device capable of RS-232 communication.

7.1.1 RS-232 INTERFACE

The control commands for the **MT105-110/111** are in a simple ASCII character format.

1. **Square brackets "[ ]" are part of the command.**
2. **Use uppercase letters for all commands.**
3. **Spaces are not legal characters.**

The cards in a MultiTasker are capable of performing various functions, as well as providing feedback to the user or control system. Commands instruct a card to perform specific actions or request information from the card. Some commands do both simultaneously.

A command that instructs the card only to perform an action will generate feedback of "[ ]". The open bracket immediately followed by a closed bracket indicates the card received a valid command. If the command requested information from the card, the feedback generated by the card is the acknowledgement of having received a valid command. Invalid commands generate feedback that includes "ERR" plus an error code.

Example: [ERR001]

After processing a command, an "OK" or error will be returned as feedback if "F" is included at the end of a command string.

Commands ending in "S" will be saved into memory. Commands not ending in "S" will still be executed, but will not be restored when the system is reset or powered off, then on.

7.2 DESCRIPTION OF COMMANDS

Each command consists of three parts: Function, Card ID, and Unit ID.

[Function , Card ID , Unit ID **]**

Example: [VERC3U2]

VER = Function

C3 = Card ID or Group ID

U2 = Unit ID (optional for Unit ID 0)

For Function, see a detailed explanation under each command description.

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The card ID is a unique identifier. It is equal to the enclosure slot number, or it may be an assigned value. As the slot number, the value can range from 1-4 up to 1-20 depending on the enclosure. If the value is assigned, the ID may be a maximum of 99. Card ID 0 (C0) is used for the controller and cannot be reassigned.

The group ID is a number representing a group of cards defined with the [WR] command. When using the group ID, all cards in the group will perform the given instruction.

NOTE: In this guide, cards are referenced by their ID (C1, C2...C99). Typically, the ID number will be equivalent to the slot number. Groups will be referenced by their ID (G1-G8).

Changing the position of a card will significantly affect the commands recorded on software definitions or third-party control systems.

The unit ID has a range from U0 to U20. U0 should be used for single unit operation. If the ID is set to U0, each command may be used without Ui. Use the command [SETU0], as explained in the MT101-101 User's Guide.

Example:

[VERC3]: For U0

[VERC3Ui]: For ID other than U0

[VERC3]: Equivalent to [VERC3U0]

COMMANDS

The COMMAND SUMMARY (Section 7.3) gives a one-line description of each command. Commands in this section are organized into 5 groups:

Basic Commands
Feedback Control Commands
Card Control Commands
ID Commands
Group Commands

BASIC COMMANDS

1. **[VER]**

   This command displays the card's model number, firmware version, and ID number.

   Command Format: [VER]

   Cn = Card ID (n = # from 1 to max slots)

   Example:

   There is an **MT105-110** card in slot 4. Sending the command [C4] to the MultiTasker will yield the following feedback:

   [MT105-110 690-0126-015 C04]

2. **[C]**

   This command displays the status of the card's input-to-output connections and whether each output is enabled or disabled.

   Command Format: [Cn]

   Cn = Card ID (n = # from 1 to max slots)

   Example:

   There is an **MT105-110** card in slot 4. Sending the command [C4] to the MultiTasker will yield feedback similar to the following:

   Matrix:16X8
   In01-Out1 OFF
   In01-Out2 OFF
   In01-Out3 OFF
   In01-Out4 OFF
   In01-Out5 OFF
   In01-Out6 OFF
   In01-Out7 OFF
   In01-Out8 OFF

   In the above example, Input 1 is connected to all outputs and all outputs are disabled.

   If there is no card in slot 4, sending the [C4] command will not return any feedback.

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3. **[CnS]**

   This command saves the status of the card into memory. The input-to-output connections and output status of each output will be recalled at reset or power-up.

   Command Format: [CnS]

   Cn = Card ID (n = # from 1 to max slots)

   Example:

   Save the settings for the **MT105-110** in slot 4 by sending [C4S]. The feedback will be similar to the following:

   Matrix:16X8
   In01-Out1 OFF
   In01-Out2 OFF
   In01-Out3 OFF
   In01-Out4 OFF
   In01-Out5 OFF
   In01-Out6 OFF
   In01-Out7 OFF
   In01-Out8 OFF
   [SAVEDC04]

   The status will be displayed first followed by the text "[SAVED]" as in the above example.

4. **[TEST]**

   This command performs a series of tests on the internal memory. Upon completion, the system will display the results.

   Command Format: [TESTCn]

   Cn = Card ID (n = slot # from 1 to max slots)

   Example:

   There is an **MT105-110** in slot 4. In order to test the internal memory, send the command [TESTC4]. If all components are functioning normally, the feedback will be similar to the follow:

   MEMORY IS GOOD

   NOTE: If any tests failed, the failure results would be displayed.

5. **[HELP]**

   This command displays information available for the MultiTasker interface commands.

   Command Format: [HELPCn]

   Cn = Card ID (n = # from 1 to max slots)

   Example:

   In order to display the RS-232 commands available for the **MT105-110** card in slot 4, send the command [HELPC4]. The commands along with a brief description will be displayed.

FEEDBACK COMMANDS

The next several commands are a function of both the card and the front panel and are only available with MultiTasker Front Panel systems that have the following firmware:

690-0122-015 = Version 015 or later.
690-0123-004 = Version 004 or later.
690-0124-018 = Version 018 or later.

Send the command [VER] to the system and the feedback will include the following:

690-0122-015 690-0123-004 690-0124-018

Check the last three digits against the numbers above to determine if the option is available.

6. **[FBD]**

   This command turns feedback delay on or off. It is necessary when installing some newer cards in older systems. If the system does not receive all of the feedback from the card, the card may be communicating too fast. This command will slow down the card's communication rate.

   Command Format: [FBDm]

   m = Delay (0= no delay, 1= delay 100mS)

   Example:

   The command [HELPC4] is sent to the card in slot 4. Some of the HELP file is displayed on the screen, but most is missing. Send the command [FBD1] to slow down the rate at which the card sends feedback to the system.

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7. **[?]**

   This command will return general information about the MultiTasker and cards installed in the unit.

   Command Format: [?Ui]

   Ui = Unit ID (i = from 0 to 20)

   Example:

   A MultiTasker with unit ID 1 has a front panel with part number MT101-101 and contains an MT103-122, MT103-123, and MT105-110. Send the command [?U1] and receive the following feedback:

   [(MT101-101U1)(MT105-110C04)
   (MT103-122C05) (MT103-123C06)]

   MT101-101U1 = Panel number/unit ID
   MT105-110C04 = MT105-110 is in slot 4
   MT103-122C05 = MT103-122 is in slot 5
   MT103-123C06 = MT103-123 is in slot 6

8. **[?C]**

   This command will return general information about the card and its status.

   Command Format: [?Cn]

   Cn = Card ID (n = # from 1 to max slots)

   Example:

   The MT105-110 in slot 4 has Input 1 connected to all outputs and all outputs are off. Send the command [?C4] and receive feedback similar to the following.

   [(MT105-110C04)(VR690-0126-015C04)
   (ON00000000C04)(MA01010101010101C04)]

   All status feedback is enclosed in brackets, "[ ]". Each data field within the status is enclosed in parentheses. The first two characters identify the status type. The last three characters are the card's ID.

   MT105-110 = Card model number
   VR690-0126-015 = Firmware version
   ON00000000 = Output ON/OFF status
   MA01010101...01 = Matrix connections

   The ON/OFF status line is read from left to right as Outputs 1-8. A "1" indicates the output is on and a "0" indicates the output is off.

   The I/O connections are also read left to right representing Outputs 1-8 and the input to which each is connected. The first two digits show the input number to which Output 1 is connected. The third and forth digits are for Output 2 and so on.

9. **[STA1]**

   This command enables automatic feedback from the front panel. The command affects any card with auto-feedback capability, not just the **MT105-110/111**. The default at power on or reset is STA0, off. For more details, see the [?Cn] command definition.

   Command Format: [STA1]

   Feedback Prefix Definitions:
   MT Card model number
   VR Firmware version
   MA Matrix settings
   ON Output ON/OFF status

   Example 1:

   Command = [I2O1C4]
   Feedback = (MA0201010101010101C04)
   MA = Matrix settings
   020101... = Output connections
   C04 = Card ID

10. **[STA0]**

    This command disables automatic feedback from the card and front panel. The command affects any card with auto-feedback capability, not just the **MT105-110/111** card**.** The default at power on or reset is STA0, OFF.

    Command Format: [STA0]

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CARD CONTROL COMMANDS

11. **[ImOx]**

This command connects a single input to a single output.

Command Format: [ImOxCn]

m = Input no. (m= # from 1 to max inputs)

x = Output no. (x = # from 1 to 8)

Cn = Card ID (n = slot # from 1 to max slots)

Example:

Connect Input 1 to Output 1 of the **MT105-110** in slot 4. Send the command [I1O1C4] and Input 1 will be connected to Output 1.

12. **[ImO*]**

This command connects a single input to all the outputs.

Command Format: [ImO*Cn]

m = Input no. (m = # from 1 to max inputs)

Cn = Card ID (n = slot # from 1 to max slots)

Example:

Connect Input 1 to all outputs of the **MT105-110** in slot 4. Send the command [I1O*C4] and Input 1 will be connected to all outputs.

13. **[CLR]**

This command clears the input-to-output connects and restores the card to its default settings. After sending the [CLR] command, Input 1 will be connected to all outputs and all outputs will be enabled.

Command Format: [CLRCn]

Cn = Card ID (n = slot # from 1 to max slots)

Example:

Clear the **MT105-110** in slot 4 by sending [CLRC4].

14. **[ON]**

This command will enable an output of a single card, or a group of cards.

SINGLE CARD OPERATION

Command Format: [ONmCn]

m = Output no. (m = # from 1-8)

Cn = Card ID (n = # from 1 to max slots)

Example:

There is an MT105-110 card in slot 4. All of the outputs on the card are off.

1) [ON1C4]: Turns on only Output 1.

2) [ONC4]: Turns on all outputs.

GROUP OPERATION

This command enables output "m" for each card in group "k".

Command Format: [ONmGk]

m = Output no. (m = # from 1-8)

Gk = Group no. (k = # from 1-8)

Example:

[ON1G1]: Turns on Output 1 for each card in G1. See the GROUP commands for a detailed explanation.

PATH OPERATION

This command will set the path for the output, but it is not active until the switch command, [SW], is executed. Commands ending in "P" are not executed immediately. The path for outputs on multiple cards or the same card may be preloaded.

Command Format: [ONmCnP]

m = Output no. (m = # from 1 to 8)

Cn = Card ID (n = slot # from 1 to max slots)

P = Path

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Example:

There are two **MT105-110** cards, C6 and C7. Enable Output 1 of C6 and Output 3 of C7 simultaneously. To do this, send the following commands:

[ON1C6P]
[ON3C7P]
[SW]

15. **[OFF]**

This command disables one or all outputs of a single card or a group of cards.

SINGLE CARD OPERATION

Command Format: [OFFmCn]

m = Output no. (m = # from 1 to 8)

Cn = Card ID (n = # from 1 to max slots)

Example:

C5 has Output 1 on. The following commands may be used to turn off the output.

1) [OFF1C5]: Turns off only Output 1.

2) [OFFC5]: Turns off all outputs.

GROUP OPERATION

This command disables output "m" for each card in group "k".

Command Format: [OFFmGk]

m = Output no. (m = # from 1-8)

Gk = Group ID (k = # from 1-8)

Example:

1. [OFF1G1]: Turns off Output 1 for each card in G1.

2. [OFFG1]: Turns off all outputs for each card in G1.

PATH OPERATION

This command will set the path for the output, but it is not active until the switch command, [SW], is executed. Commands ending in "P" are not executed immediately. The path for outputs on multiple cards or the same card may be preloaded.

Command Format: [OFFmCnP]

m = Output no. (m = # from 1 to 8)

Cn = Card ID (n = # from 1 to max slots)

P = Path

Example:

There are two **MT105-110** cards, C6 and C7. Disable Output 1 of C6 and Output 3 of C7 simultaneously using the following commands:

[OFF1C6P]
[OFF3C7P]
[SW]

16. **[…S] – SAVE**

This command will save the configuration command being sent in memory. When sending the command [I1O1C4S], after reset or power up, Input 1 will be connected to Output 1 on C4. This command only saves the Input 1 to Output 1 connection above. In order to save all the current settings, use the [CnS] command.

17. **[…F] – FEEDBACK**

After processing a command, an “OK” or error message in the form of “[ERR001]” will be returned as feedback if “F” is included at the end of a command string.

18. **[…P] – PATH**

This command will set the path for the output, but it is not active until the switch command, [SW], is executed. Commands ending in "P" are not executed immediately. The path for outputs on multiple cards or the same card can be preloaded. See the examples in the [ON] and [OFF] commands.

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Example:

There is an **MT105-110** in slot 4. Currently, Input 1 is connected to all outputs and all outputs are on. The PATH command has been used to set Input 2 to Output 1 and turn off Output 2 and Output 3 at the same time. If checking the status prior to sending the [SW] command, the feedback will appear as follows for the above connection settings:

In1-Out1 ON P=2
In1-Out2 ON P=OFF
In1-Out3 ON P=OFF
In1-Out4 ON
In1-Out5 ON
In1-Out6 ON
In1-Out7 ON

The notation "P=" at the end of the line indicates the path condition is active. "P=2" on the Output 1 line indicates that after the [SW] command, Input 2 will be connected to Output 1.

The notation "P=OFF" on lines 2 and 3 indicates that Outputs 2 and 3 will be turned OFF after the [SW] command is executed.

19. **[SW] – SWITCH**

This command immediately connects inputs and outputs previously set with the PATH command. The command switches all paths set on this card and all other cards in the enclosure.

Example:

The following commands set the path for turning on Output 1 of C6 and turning off Output 3 of C7. Nothing happens until the [SW] command is sent. At that time, Output 1 will be enabled and Output 3 will be disabled.

[ON1C6P]

[OFF3C7P]

[SW]

20. **[MATmXy]**

This matrix command allows the matrix switcher to be setup for different matrix sizes. The tables below show how the inputs and outputs will be configured when the matrix is changed for an **MT105-110**.

Example:

In the 8x4 configuration, when Input 1 is connected to Output 8, the entire channel, 1a and 1b, will be switched to outputs 8a and 8b respectively.

Command Format: [MATmXyCn]

m = Number of inputs (m = 16, 8, or 4)

y = Number of outputs (y = 8, 4, or 2)

Cn = Card ID (n = slot # from 1 to max slots)

16 X 8

IN	OUT
O9 O1	O1
O10 O2	O2
O11 O3	O3
O12 O4	O4
O13 O5	O5
O14 O6	O6
O15 O7	O7
O16 O8	O8

8 X 4

IN	OUT
O5a O1a	O1a
O5b O1b	O1b
O6a O2a	O2a
O6b O2b	O2b
O7a O3a	O3a
O7b O3b	O3b
O8a O4a	O4a
O8b O4b	O4b

4 X 2

IN	OUT
O3a O1a	O1a
O3b O1b	O1b
O3c O1c	O1c
O3d O1d	O1d
O4a O2a	O2a
O4b O2b	O2b
O4c O2c	O2c
O4d O2d	O2d

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ID COMMANDS

The default card ID is the same as the card slot number. The next several commands allow the user to change the card ID to a value other than the slot number. Once the ID is changed, moving the card to another slot will not change the card ID. If a card in slot 4 is set to ID 1, then moved to slot 10, its ID will remain 1. The [RSI] command forces each installed card to take its slot number as its ID number, regardless of the slot in which it is installed.

Some cards require more than one slot in the MultiTasker system. As an example, some matrix switcher cards require 4 slots. If 5 of these cards are installed, they would be numbered C4, C8, C12, C16, and C20. Changing the ID allows the user to define the cards as C1, C2, C3, C4, and C5.

Another use for changing the card ID is to be able to use multiple systems without having to set each unit to a different unit ID. All systems may be left as unit ID 0 for ease of programming. The cards in the first unit may be numbered 1-10 and in the second unit 11-20.

The ID commands work with all MultiTasker systems. However, front panels that have firmware releases prior to the following will not be able to address card IDs greater than the number of slots in the system:

690-0122-019 = Version 019 or later.

690-0123-005 = Version 005 or later.

690-0124-019 = Version 019 or later.

Send the command [VER] to the system and the feedback will include the following:

690-0122-019 690-0123-005 690-0124-019

Check the last three digits against the numbers above to determine if the card ID commands can address all 99 card IDs.

21. **[RSI]**

This command resets the card IDs in the system. After sending this command, each card ID in the system will match the slot number of the card. If the card is moved to another slot, its ID number will be the new slot number.

Command Format: [RSI]

Example:

Send the command [RSI] to the system with Unit ID 0. The card in slot 1 will have ID 1, the card in slot 2 will have ID 2, and so on. If the card in slot 1 is then moved to slot 4, the card ID will then be 4.

22. **[SIDn]**

This command sets all the cards installed in the MultiTasker system to the same card ID. After sending this command, all cards will be addressed with the same ID. Use caution when sending this command to a system with multiple board types.

Command Format: [SIDn]

n = Card ID (n = # from 1 to 99)

Example:

Send the command [SID1] to the system. All the cards in the system now have ID 1. Any commands that are sent to card ID 1 will be received and executed by each card.

23. **[SIDnCi]**

This command sets the card ID of a single card to a number from 1 to 99.

Command Format: [SIDnCi]

n = Card ID (n = # from 1 to 99)
Ci = Slot Number (i = # from 1 to max slots)

Example:

Send the command [SID50C10] to set the ID of the card in slot 10 to an ID of 50.

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24. **[SID+]**

This command sets the card ID of all the cards in a system to their slot number plus an offset.

Command Format: [SID+n]

n = Offset amount (n = # from 0 to 99) The maximum card ID is 99, so subtract the highest slot number from 99 to find the maximum offset. For example, in an 8-slot enclosure, the maximum offset would be 91. The slot number (8) plus the offset (91) equals 99.

Example:

There are two 20-slot enclosures to be connected together during normal operation. The first unit will use the default IDs where the card ID is equal to the slot number. The second unit will have the same unit ID, but each card ID will be offset by 20.

Connect the computer to the second unit only and send [SID+20] to set the ID of all the cards in the second enclosure to their slot number plus 20. Reconnect both units to the computer.

The cards in the first unit will be referenced as card IDs 1-20 and the cards in the second unit will be referenced by card IDs 21-40.

25. **[RSN]**

This command displays the slot number of a card with a specified ID number. If more than one card has the same ID, each will display.

Command Format: [RSNCi]

Ci = Card ID (i = # from 1 to 99)

Example:

The card in slot 4 takes up four slots in the enclosure. Its ID was set to 1 since it is the first card installed in the system, reading from left to right. Send the command [RSNC1] to find the slot number of this card. The system responds with the following feedback:

[4]

GROUP COMMANDS

Group commands allow several cards with the same functions to be controlled simultaneously with a single command. Up to 8 groups (G1-G8) may be defined. These commands apply to all cards, not only the **MT105-110**.

26. **[WR]**

This command adds cards to a group. In MultiTasker systems with audio and video cards, the groups are typically as follows:

Group 1 = Video Cards

Group 2 = Audio Cards

Group 3 = Video and Audio Cards

Command Format: [WRCn_1Cn_2…Gk]

Cn = Card ID (n = slot # from 1 to max slots)

Gk = Group ID (k = # from 1-8)

Example:

Add C2, C4, and C6 to G5 by sending the command [WRC2C4C6G5]. After executing this command, G5 will consist of C2, C4, and C6.

Now add C8 to G5 by sending [WRC8G5]. C8 is added to G5, and G5 is not overwritten. View the contents of G5 by sending [RDG5] and receiving the following feedback:

[G5=C2C4C6C8]

27. **[RMC]**

This command removes one or more cards from a group.

Command Format: [RMCn_1Cn_2…Gk]

Cn = Card ID (n= # from 1 to max slots)

Gk = Group ID (k = # from 1-8)

Example:

G5 consists of the C2, C4, C6, and C8. Remove C6 and C8 by sending [RMC6C8G5]. View the contents of G5 by sending [RDG5] and receiving the following feedback:

[G5=C2C4]

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28. **[RMG]**

This command deletes one or all groups.

Command Format: [RMGk]

Gk = Group ID (k = # from 1-8, * for all)

Example:

Remove all cards from G52 by sending [RMG5]. The system will return the following feedback:

[G5=0]

Example 2:

Remove all cards from all groups, effectively deleting all groups, by sending [RMG*]. The system will return the following feedback:

G1-G8: EMPTY

29. **[RD]**

This command reads and then displays the members in a group.

Command Format: [RDGk]

Gk = Group ID (k = # from 1-8)

Example:

C2, C4, and C6 make up G5. Read the member data for G5 by sending the command [RDG5]. The system will return feedback as follows:

[G5=C2C4C6]

The feedback shows G5 and then the cards that make up G5. In this case, G5 includes C2, C4, and C6.

7.3. SUMMARY OF COMMANDS

Basic Commands

1) [VER] Display firmware version
2) [C] Display card status
3) [CnS] Save card settings
4) [TEST] Test internal memory ICs
5) [HELP] Display available commands

Feedback Commands

6) [FBD] Feedback delay on/off
7) [?] Display system cards
8) [?C] Display card information
9) [STA1] Auto-feedback on
10) [STA0] Auto-feedback off

Card Control Commands

11) [IO] Connect input to output
12) [IO*] Connect input to all outputs
13) [CLR] Reset card to defaults
14) [ON] Enable one or more outputs
15) [OFF] Disable one or more outputs
16) […S] Save command being sent
17) […F] Display "OK" feedback
18) […P] Set the path, [SW] preload
19) [SW] Switch preloaded output
20) [MAT] Set matrix configuration

ID Commands

21) [RSI] Reset Card IDs to defaults
22) [SIDn] Set all Card IDs
23) [SIDnCi] Set one Card ID
24) [SID+] Set all Card IDs to an offset
25) [RSN] Display card slot number

Group Commands

26) [WR] Add card(s) to a group
27) [RMC] Remove card(s) from group
28) [RMG] Delete group
29) [RD] Display group members

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TROUBLESHOOTING GUIDE 8

We have carefully tested and have found no problems in the supplied **MT105-110/111**; however, we would like to offer suggestions for the following:

8.1 NO DISPLAY

Cause 1: The source has a problem.

Solution: Check the source and make sure that there is a signal present and all source connections are correct. If the source is working and there is still no display, see Cause 2.

Cause 2: The card input is not selected.

Solution: Select the card input. See RS-232 accessible commands in Section 7. If no display is present, see Cause 3.

Cause 3: Cable connections to the destination are incorrect.

Solution: Make sure that cables are connected properly. Also, make sure that the continuity and wiring are good. If there is still no display present, see Cause 4.

Cause 4: The display has a problem.

Solution: Make sure that the display is powered. If there is still no display, call ALTINEX at (714) 990-2300.

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9.1 LIMITED WARRANTY/RETURN POLICIES

Please see the ALTINEX website at www.altinex.com for details on warranty and return policies.

9.2 CONTACT INFORMATION

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